PRELIMINARY NOTES ON THE SPIDERS OF SHRUBS OF SOUTHERN CALIFORNIA, OAHU AND GUAM

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This study affords a direct comparison of species composition, diversity and relative abundance (RA) of spiders collected in field-type vegetation from selected locations.

The study sites are the Old Ridge Route and San Gabriel Canyon both of Los Angeles County; Kahuku (K) and Diamond Head Crater (DHC) of Oahu County and Yigo (Y) of Guam. The vegetation of the Old Ridge Route may be described as chamise chaparral dominated by Adenostoma fasciculatum, Ceanothus crassifolius and C. spinosa; of San Gabriel Canyon, manzanita chaparral dominated by Arctostaphylos glauca and A. glandulosa. All dominant plant species at the California

sites are native to the area.

The role of fire in chaparral is well known and the chaparral sites were selected from areas free of fire for 10 years prior to the study. The vegetation of the island collecting localities may be described as dense thickets of Leucaena leucocephala (koa-haole), an introduced species. At Yigo, Guam and Kahuku, Oahu sweeping was confined to foliage comprised exclusively of koa-haole. At Diamond Head Crater, more than 95% of the swept foliage was koa-haole with infrequent sweeps of Sida fallax and Amaranthus spinosus.

The specimens collected with the use of the standard sweep net are used for a direct comparison of the spider species composition as well as their RA in shrub vegetation from the locations mentioned above. The oral presentation made reference to other sites being collected on the islands of Oahu, Maui, Midway and Kahoolawe.

It was shown that for California, the RA of spiders was lowest in the dry chamise chaparral and higher in manzanita chaparral. In Hawaii and Guam, the lowest figure was found on the koa-haole at Diamond Head Crater where the RA was comparable to that found in San Gabriel Canyon. The highest RA was found on the koa-haole at Kahuku Oahu. The RA figure for spiders at the Yigo Guam was comparable to the RA found at Kahuku.

In both chamise and manzanita chaparral Thomisidae were most frequently encountered, 46.9% and 37.8%, respectively.

The next most frequent spiders were Salticidae, 12.8% and 20.8%, respectively. All the spiders from these 2 families were native to the area. Spiders from 6 other families were also collected in the chaparral foliage.

At all 3 island sites the spiders found in koa-haole were dramatically different from that found at both continental chaparral sites. Araneidae were most frequent (58.3% at DHC, 81.7% at K and 77.5% at Y) and Salticidae next most frequent (15.2%, 7.9% and 5.6%, respectively), while no Thomisidae were taken by sweeping - or by any other method. The most frequently encountered Araneidae were introduced species. Spiders from 4 other families were collected in koa-haole at Kahuku while only 3 other families were represented at Diamond Head Crater and Yigo.

Based on the preliminary results of this study, indigenous species of spiders have not successfully invaded the habitats afforded by introduced koa-haole vegetation.